

# Curriculum Vitae

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## Employment History

09/2007 onward Group manager "Hydrogen Technology" at the Fraunhofer Institute for Manufacturing Technology and Applied Materials Research (IFAM)  
05/2007 – 08/2007 Research staff at TU Dresden, Institute of Materials Science  
11/2003 – 04/2007 Research staff at Research Center Dresden-Rossendorf, Institute for Ion Beam Physics and Materials Research

## Education

12/2007 Graduation: *Dr. rer. nat.* (grade: *summa cum laude*); doctoral thesis: Shape Evolution of Nanostructures by Thermal and Ion Beam Processing – Modeling & Atomistic Simulations  
09/2003 Graduation: *Diplom-Physiker* (grade: very good); diploma thesis: Self-Organization of Si Nanocluster  $\delta$ -Layers at Ion-Beam-Mixed Si-SiO<sub>2</sub> Interfaces (grade: very good)  
09/2000 – 05/2001 Study of Physics, Philosophy, Intl. Relations at Boston University, MA, USA  
10/1997 – 09/2003 Study of Physics at TU Dresden  
06/1996 *Abitur* (grade average: 1.0)  
09/1984 – 06/1996 School attendance

## Practical Experience

06/2001 – 12/2006 Freelance tourist guide in the Dresden Opera House "Semperoper" (English and German)  
09/2001 – 09/2002 Student employee with AMD Saxony LLC (Material Analysis Department); topic: Soft-error sensitivity of SOI devices  
08/1998 – 09/1999 Student employee at the Fraunhofer Institute for Electron Beam and Plasma Physics (FEP); topics: Optical plasma emissions in the reactive bipolar pulse magnetron sputtering process of titanium oxide; DC sputtering of zinc oxide  
08/1997 – 10/1997 Internship at the Institute for Applied Physics at TU Dresden; topic: DC conductivity of oxides, intermetallic and rare-earth transition-metal compounds

## Awards

E-MRS Young Scientist Award, Strasbourg, France, 2004.

IBMM 2004 Poster Award, Monterey, USA, 2004.

Scholarship of the *Kulturstiftung Dresden der Dresdner Bank*, 2000 – 2001.

## Further Skills

computer	C/C++, Kinetic Monte Carlo, Basic, Latex, PovRay, RasMol, TRIM, TRIDYN, FlexPDE, Comsol Multiphysics, Maple, Corel Draw, Origin, MS-Office, Windows/Linux
experiment	TEM, SEM, ion beam techniques, thin-film deposition techniques, ellipsometry, thermoanalytical techniques, diffraction and scattering techniques
languages	German (native language), English (fluent), Spanish (basic), Latin, Ancient Greek, Russian (school level)
hobbies	strawberry breeding, tennis, ancient egypt, architecture, glaze techniques

## Publications

- [1] Th. Schmidt, L. Röntzsch, *Reversible hydrogen storage in Ti-Zr-codoped NaAlH<sub>4</sub> under realistic operation conditions*, J. Alloys Compds. **496** (2010) p. L38-L40.
- [2] S. Kalinichenka, L. Röntzsch, C. Baetz, B. Kieback, *Hydrogen desorption kinetics of melt-spun and hydrogenated Mg<sub>90</sub>Ni<sub>10</sub> and Mg<sub>80</sub>Ni<sub>10</sub>Y<sub>10</sub> using in situ synchrotron, X-ray diffraction and thermogravimetry*, J. Alloys Compds. **496** (2010) p. 608-613.
- [3] L. Röntzsch, Th. Schmidt, S. Kalinichenka, C. Pohlmann, A. Schmidt, Th. Weißgärber, B. Kieback, *Wasserstoffspeicherung in nanoskaligen Feststoffen*, p. 41-56 in H. Kolaska (Ed.): *Energie- und Ressourceneffizienz durch Pulvermetallurgie*. Proceedings 28<sup>th</sup> Hagener Symposium, Heimdall, Witten, 2009, ISBN: 978-939935-39-1.
- [4] L. Röntzsch, S. Kalinichenka, B. Kieback, *Microstructure and De-/Hydrogenation Behavior of Melt-Spun Mg-Ni-Y Alloys as Hydrogen Storage Materials*, p. 1085-1090 in K.U. Kainer (Ed.): *Magnesium. Proceedings of the 8<sup>th</sup> International Conference on Magnesium Alloys and their Applications*, Wiley-VCH, Weinheim, 2009, ISBN: 978-3-527-32732-4.
- [5] Th. Schmidt, L. Röntzsch, S. Kalinichenka, J. Meinert, B. Kieback, *Entwicklung reversibler Wasserstoffspeichersysteme auf Basis nanostrukturierter Metallhydride*, Chemie Ingenieur Technik, **81** (2009), p. 1136.
- [6] S. Kalinichenka, L. Röntzsch, B. Kieback, *Structural and hydrogen storage properties of melt-spun Mg-Ni-Y alloys*, Intl. J. Hydrogen Energy **34** (2009) p. 7749-7755.
- [7] L. Röntzsch, *Shape evolution of nanostructures by thermal and ion beam processing*, Wissenschaftlich-technische Berichte des Forschungszentrums Dresden-Rossendorf, FZR-488, 2008, 177 p.
- [8] L. Röntzsch, K.H. Heinig, J.A. Schuller, M.L. Brongersma, *Thin film patterning by surface-plasmon-induced thermocapillarity*, Appl. Phys. Lett. **90** (2007) p. 044105.
- [9] B. Schmidt, K.H. Heinig, L. Röntzsch, K.H. Stegemann, *Nanocluster memories by ion beam synthesis of Si in SiO<sub>2</sub>*, Mater. Sci. Poland **25** (2007) p. 1213-1222.
- [10] B. Schmidt, A. Mücklich, L. Röntzsch, K.H. Heinig, *How do high energy heavy ions shape Ge nanoparticles embedded in SiO<sub>2</sub>?*, Nucl. Instr. Methods B **257** (2007) p. 30-32.

- [11] L. Röntzsch, K.H. Heinig, B. Schmidt, A. Mücklich, *Experimental evidence of Si nanocluster  $\delta$ -layer formation in the vicinity of ion-irradiated SiO<sub>2</sub>-Si interfaces*, Nucl. Instr. Methods B **242** (2006) p. 149-151.
- [12] B. Schmidt, K.H. Heinig, L. Röntzsch, T. Müller, K.H. Stegemann, E. Votintseva, *Ion irradiation through SiO<sub>2</sub>/Si interfaces: Non-conventional fabrication of Si nanocrystals for memory applications*, Nucl. Instr. Methods B **242** (2006) p. 146-148.
- [13] L. Röntzsch, K.H. Heinig, B. Schmidt, A. Mücklich, W. Möller, J. Thomas, T. Gemming, *Direct evidence of self-aligned Si nanocrystals formed by ion irradiation of Si/SiO<sub>2</sub> interfaces*, physica status solidi A **202** (2005) p. R170-R172.
- [14] L. Röntzsch, K.H. Heinig, *Reaction pathways of ion beam synthesis and stability of monocrystalline nanowires*, p. 165–169 in P. Pödör et al. (Eds.): *Proceedings Intl. Workshop on Semicond. Nanocrystals*, Vol. 1, Budapest, Hungary, 2005, ISBN 963-7371-18-4.
- [15] L. Röntzsch, K.H. Heinig, B. Schmidt, *Experimental Evidence of Si Nanocluster  $\delta$ -Layer Formation in Buried and Thin SiO<sub>2</sub> Films Induced by Ion Irradiation*, Mater. Sci. Semicond. Proc. **7** (2004) p. 357-362.
- [16] L. Röntzsch, *Self-Organization of Nanocluster Delta-Layers at Ion-Beam-Mixed Si-SiO<sub>2</sub> Interfaces*, Wissenschaftlich-technische Berichte des Forschungszentrums Rossendorf, FZR-392, 2003, 91 p.